Public Health Resources and Tools That Support Meaningful Use

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Meaningful Use for Public Health Professionals: Basic Training
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Disclaimer

- The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.
Objectives

- Describe the Public Health Information Network (PHIN)
- Describe how PHIN aligns with other federal health information technology initiatives
- Understand how CDC/PHIN tools may be leveraged for meaningful use
- Understand how CDC programs support the public health meaningful use objectives
Your Challenge During This Session

- Think of one way you could use this information in your current work
  - What resource could be useful to you?
  - Why is PHIN important?
  - How can you make PHIN work for you?
DESCRIBE THE PUBLIC HEALTH INFORMATION NETWORK (PHIN)
Public Health Information Network (PHIN)

Standards

Vision: An integrated healthcare and public health system using information effectively to advance population health and well being.

Practices

Policies

Services
Provide leadership in the selection and implementation of shared policies, standards, practices, and services for nationwide public health information exchange.

Define, advocate for, and support public health needs and roles in national health information technology and exchange initiatives.

Perform key public health information exchange and standards management roles.
DESCRIBE HOW PHIN ALIGNS WITH OTHER FEDERAL HEALTH INFORMATION TECHNOLOGY INITIATIVES
Data Exchange Model (Before)

Common Services and Components

NWHIN
Nationwide Health Information Network

- Patient Data
- Health Record Locator
- Data Brokering

Directory
Messaging
Vocabulary
Security

Data & Information

Monitoring Data
Intervention Information
Prevention Information
Communication and Alerts

State and Local Health Departments
Public Health Labs
CDC, FDA, USDA, EPA, and other Federal Agencies

Hospital or Healthcare System
Electronic Health Records
Personal Health Records
Pharmaceutical Stockpile
Other Surveillance Sources
Consumers
Clinical Labs

PUBLIC HEALTH INFORMATION NETWORK
Data Exchange Model (After)
UNDERSTAND HOW CDC/PHIN TOOLS MAY BE LEVERAGED FOR MEANINGFUL USE
PHIN Support Team

- **Technical Assistance**
  - Subject matter experts support the HHS regions
  - Helpdesk
  - Activities
    - Listservs
    - Websites
    - Nationwide calls

- **Contact Us**
  - [www.cdc.gov/phin](http://www.cdc.gov/phin)
  - PHINTECH@cdc.gov
  - 1-800-532-9929
Funding Initiatives

Epi and Lab Capacity (ELC) Cooperative Agreements
- NEDSS
- BioSense

Public Health Emergency Preparedness (PHEP) Cooperative Agreements

National Public Health Improvement Initiative Cooperative Agreement

EHR-IIS Enhanced Interoperability Cooperative Agreement
- 20 Immunization Program Grantees
- $21.4 M
CDC/PHIN Tools and Resources for Messaging

Construction
- Messaging Guides
- PHINVADS
- RCMT

Validation
- MQF
- MSS

Transport
- PHINMS

Consumption
- MSS
Construction: PHIN Messaging Guides

- Message mapping guides on PHIN website
- Syndromic surveillance guide
Construction: PHIN VADS

- **Common terminology reference tool for accessing, searching, and distributing HL7 messaging value sets**
- **Promotes sharing and reusing of the value sets**
- **Allows access to the current, past and the future versions of value sets and value set collections**
How can you access it?

- **PHIN VADS Web Browser** [http://phinvads.cdc.gov](http://phinvads.cdc.gov)
- **PHIN VADS Hyperlinks for Meaningful Use Stage 1 Vocabulary:**
  - MU Stage 1 - [Immunization HL7 2.5.1 IG Vocabulary](http://phinvads.cdc.gov)
  - MU Stage 1 - [ELR HL7 2.5.1 IG Vocabulary](http://phinvads.cdc.gov)
  - MU Stage 1 – [Value sets related to Syndromic Surveillance](http://phinvads.cdc.gov)
- **PHIN VADS Web Service** – System to System exchange of vocabulary data
- **PHIN VADS Lite** – Local instance of VADS web services and database
- **PHIN VADS Custom Downloader** (using web services)
RCMT provides all the lab tests (LOINC) and results (SNOMED*) associated with jurisdiction reportable and nationally notifiable conditions.

Facilitates filtering and routing of reportable lab results to various PH Programs.

Available June 2011, starting with nationally notifiable conditions.

* SNOMED = Systematized Nomenclature of Medicine--Clinical Terms
Validation: PHIN MQF

- Structural, vocabulary, and message validation at the national level
- Supports validation for Stage 1 meaningful use – Reportable lab results and immunization registries
- Meaningful use *senders* can pre-test messages
- Meaningful use *receivers* can obtain MU-compliant test messages for pre-testing
- National conformance profiles available for download
Validation: PHIN MQF

- [https://phinmqf.cdc.gov](https://phinmqf.cdc.gov) (available through any internet connection)
Validation: MSS

- Structural and message validation at the local level
- Mapping of 2.3.1 to 2.5.1
- XML profiles available for states
- Community of Practice: NEDSS Messaging User Group
- Technical assistance to states
Transport: Overview

- The EHR/meaningful use regulation contains no requirement as to message transport
- Public health is invested in PHIN Messaging Service (PHINMS)
- ONC is piloting and supporting Direct
- Options:
  - PHINMS
  - SFTP
  - Direct
  - Connect
Some software and service providers for clinical health will be implementing Direct CDC/ONC target for October 2011

Near term: Try to employ Direct

Long term: Collaborate to determine PH Transport Strategy

Articulate business level needs → analysis → tech requirements → solutions

Use Standards and Interoperability (S&I) framework
• Endorsed by ONC
Consumption: MSS

- Integration engine, handles messages
- Provides content and structural validation
- Routes to appropriate surveillance system
UNDERSTAND HOW CDC PROGRAMS SUPPORT THE PUBLIC HEALTH MEANINGFUL USE OBJECTIVES
Programs

National Electronic Disease Surveillance System (NEDSS)

Immunization Information Systems (IIS)

Syndromic Surveillance (SS)

Electronic Laboratory Reporting (ELR)
What Is NEDSS?

- **Broad initiative**
  - Promotes the use of data and information system standards to advance the development of efficient, integrated, and interoperable surveillance systems at federal, state and local levels
  - Major component of PHIN

- **Designed to:**
  - Monitor the health of the nation
  - Facilitate electronic transfer of appropriate information from clinical information systems to public health departments
  - Reduce provider burden in the provision of information
  - Enhance timeliness and quality of information provided
Key Components of NEDSS

Leadership in the adoption of standards-based interoperable surveillance information systems that integrate epidemiologic, laboratory, and clinical information

Key tools for collecting, exchanging and analyzing information

Surveillance infrastructure resources to state and local health departments for the required personnel, training and equipment

Meaningful use-compatible ELR infrastructure to support reportable disease surveillance
NEDSS and Meaningful Use

- NEDSS tools that support meaningful use are:
  - NEDSS Base System
  - Message Subscription Service

Public Health Programs
  - NEDSS Base System (NBS)

Public Health Jurisdiction
  - Message Subscription Service (MSS)
NEDSS Tools and Applications: How Can You Access Them?

- Freely available to public health jurisdictions:
  - NEDSS-Base System
    - Programmatic: Wayne Brathwaite (wsb2@cdc.gov or 404.498.6279)
    - Technical Lead: Arun Srinivasan (fos2@cdc.gov or 678.733.4692)
  - NEDSS Message Subscription Service, including request for technical assistance and training
    - Technical Lead: Arun Srinivasan
  - NEDSS Cooperative Agreement support, please contact the Epidemiology and Laboratory Capacity
    - Programmatic: Alvin Shultz (fcu9@cdc.gov or 404.639.7028)
What is an Immunization Information System?

- Help ensure correct and timely immunizations
- Confidential, population-based
- Record all immunization doses given by participating providers within an area

Source: http://www.cdc.gov/vaccines/programs/iis/what-iis.htm
Question: How many EHRs provide immunization data directly to an IIS through an electronic interface?

Answer: 37 grantees reported that 3,618 EHRs electronically report data to an IIS.

Source: 2009 Immunization Information System Annual Report
Compliance with Health Level Seven Intl. (HL7) Messaging Standards in a grantee IIS--US and six cities, 2009

- No IIS or No Report (3)
- Grantee Uses State IIS (2)
- No HL7 Compliance (17) 33%
- Partial HL7 Compliance (4) 8%
- Full HL7 Compliance (30) 59%
What is Syndromic Surveillance?

- **Syndromic Surveillance**
  - Public health surveillance emphasizing the use of near “real-time” pre-diagnostic data and statistical tools to detect and characterize unusual activity for further public health investigation
  - Situation Awareness - Syndromic Surveillance is not always about detecting the disease, but also ‘what’s going on’

- **Public Health Surveillance**
  - Ongoing, systematic collection, analysis, interpretation, and dissemination of data regarding a health-related event for use in public health action to reduce morbidity and mortality and to improve health

From International Society for Disease Surveillance – www.syndromic.org
BioSense Program Redesign reflects approach to MU Syndromic Surveillance

- Collaborative user-centered design approach with CDC and partners
- Technology supports surveillance, not the other way around
- Stakeholders have ownership and CDC respects jurisdictional boundaries
  - State/Local Public Health
  - CSTE, ASTHO, NACCHO, ISDS, other professional organizations
- Initial requirements gathering, ongoing feedback, program improvement
EHR Requirements for Syndromic Surveillance

- Developed by ISDS and BioSense Program
- User-centered process to define “what to send” to public health for meaningful use
- Includes 32 data elements commonly used by public health authorities to conduct syndromic surveillance
- Final guide published for public comment in Federal Register
Supporting State and Local Syndromic Surveillance Efforts

- **BioSense partnering to develop community-owned “catcher’s mitt”**
  - Technical assistance to help state, local public health take advantage of meaningful use by helping them “catch” meaningful use data
  - Addresses ASTHO survey finding - fewer than 25 percent of jurisdictions are meaningful use ready, especially for syndromic surveillance
  - Joint CSTE, ASTHO project funded by BioSense Program
    - Includes other federal partners and national providers
  - Focuses on human aspects of public health surveillance by using a social network approach to strengthen the community and encourage sharing and collaboration
  - Helps state, local public health take full advantage of automated data collection
What is ELR?
Reportable/Notifiable Conditions

State statutes vary:
- List of reportable/notifiable conditions
- Time line for required reporting
- Fax/phone/mail/electronic/structured
What is ELR for Meaningful Use?

Submission of electronic data on reportable lab results to PH agencies or meaningful use reportable lab results
How is CDC Supporting ELR?

- **CSTE/CDC ELR Taskforce**
  - In close partnership with APHL

- **HITECH funding**
  - Laboratory Technical Implementation Assistance for Public Health
    - 10 states being supported by APHL
  - Standard and Reusable Solutions for Hospital Laboratory Submission of Reportable Lab Results to Public Health
    - 500 hospital laboratories to connect with public health agencies so they can meet meaningful use requirements through Surescripts award
CDC Websites

- CDC PHIN Website:  www.cdc.gov/phin
- CDC Meaningful Use:  www.cdc.gov/ehrmeaningfuluse
- PHIN VADS:  http://phinvads.cdc.gov
- PHIN MQF:  https://phinmqf.cdc.gov
- NEDSS site:  www.cdc.gov/nedss/
- IIS site:  www.cdc.gov/vaccines/programs/iis
- ISDS site:  http://syndromic.org/projects/meaningful-use
- BioSense Program Redesign:  http://biosenseredesign.org
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- Jot down your thoughts